Title (en)

Apparatus and process for applying a fluid or pasty coating onto a moving support

Title (de)

Vorrichtung und Verfahren zum Auftragen eines flüssigen oder pastösen Auftragsmediums auf einen laufenden Untergrund

Title (fr)

Appareil et procédé pour appliquer une enduction fluide ou pâteuse sur un support en mouvement

Publication

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Application

EP 99120178 A 19991009

Priority

DE 19854448 A 19981125

Abstract (en)

[origin: EP1004702A2] Apparatus (10) to apply a liquid or paste coating medium (14) to a moving web surface (U), has a doctor (26) mounted to a doctor bed (20) to form a dosing gap (32) with the web surface (U). At the web entry side of the doctor bed (20), a surface (20d) defines a build-up zone (30) for the coating medium (14) between the bed (20) and the moving web surface (U). At the web entry side of the doctor bed (20), a surface (20d) defines a build-up zone (30) for the coating medium (14) between the bed (20) and the moving web surface (U), where the medium carried by the moving web builds up in front of the dosing gap (32). A setting mechanism (28) positions the limit surface (20d) in relation to the moving web surface (U), to alter the shape of the build-up zone (30). Preferred Features: The coating medium build-up zone (30) has a length (D1) of 2-100 mm, measured along the direction (L) of web travel, and preferably 5-50 mm. The width (d1) of the build-up zone (30) is 0.5-5.0 mm and preferably 0.5-2.0 mm measured along (L) and across (Q) the web surface (U). The build-up zone (30) can have a compensation zone at the entry side with a length of 5-30 mm, along the running direction (L), and a width of 4-11 mm measured along (L) and across (Q) the web surface (U). The setting mechanism alters the shape of the build-up zone and also the compensation zone. The doctor bed (20) has a base section (20b) for the doctor (26). The entry zone defining surface (20d) projects from the base (20b), held by a flexible tongue (20c), with the setting mechanism (28) between the tongue (20c) and base (20b) sections. The setting mechanism can rotate the doctor body on an axis across the applicator. The free end of the tongue can be at a carrier for the applicator. The doctor body can be linked to an applicator carrier by a flexible member, with the setting mechanism between the doctor body and the carrier. The doctor (26) is a smooth or profiled doctor rod, with a diameter of 10-38 mm, preferably 24 mm. The limit surface has at least a smooth section (20d) against the doctor rod (26), with a gap of up to 1 mm on a theoretical tangential plane at the doctor surface parallel to the limit surface. The theoretical tangential plane of the limit surface forms an angle of up to 10 degrees with the moving web surface (U) in the dosing gap. The limit surface can have a section which is part of a cylindrical surface, with a radius of 10-600 mm, preferably 50 mm. The limit surface is secured with rounded transits. The limit surface (20d) of the doctor body (20) acts with the setting mechanism (28) so that, on a relative movement in relation to the moving web surface (U), the holder opening (20a) for the doctor rod (26) is unaffected. A further setting mechanism (34) determines the pressure of the doctor rod (26) against the web surface (U) and/or to fix the position of the doctor rod in the doctor body. The limit surface setting mechanism (28) has a number of lateral (Q) setting units, operated independently of each other. The setting units are operated electrically and/or hydraulically and/or pneumatically and/or hydropneumatically and/or manually. At least part of the setting mechanism is formed by a pressure hose (28) in sections or chambers. An Independent claim is included for the operation of a web coating station, where the weight of the applied coating is set by the position of the limit surface (20d) in relation to the moving web surface (U) at the build-up zone (30), to change the shape of the build-up zone (30). Preferred Features: The lateral profile of the applied coating layer on the web surface (U) is set by adjustment to the position of the limit surface (20d) by zones, in relation to the moving web surface (U).

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